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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/019,747	12/21/2001	Shuichi Watanabe	56779/70551	9936
21874	7590	10/19/2005		
EDWARDS & ANGELL, LLP P.O. BOX 55874 BOSTON, MA 02205			EXAMINER REKSTAD, ERICK J	
			ART UNIT	PAPER NUMBER
			2613	

DATE MAILED: 10/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/019,747	Applicant(s) WATANABE, SHUICHI	
	Examiner Erick Rekstad	Art Unit 2613	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 May 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 34-70 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 37-39 is/are allowed.
- 6) ☒ Claim(s) 34-36, 40, 42, 43, 45, 47, 48, 50-55, 57-60 and 62-70 is/are rejected.
- 7) ☒ Claim(s) 41, 44, 46, 49, 56 and 61 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This is a Final Rejection for application no. 10/019,747 in response to the amendment filed on May 17, 2005 wherein claims 34-70 are presented for examination.

Response to Arguments

Applicant's arguments filed May 17, 2005 have been fully considered but they are not persuasive. With regards to claim 34, the applicant argues that the information used by Yang to describe a scene is not statistics. Yang teaches the use of pattern recognition to determine what object is present in a block of a frame (Col 6 Lines 10-20). Further, Yang records the symbols identified and the coordinates of the symbols (Col 6 Lines 34-38). The information is then used to summarize the scene (Col 7 Lines 16-24). This is viewed by the examiner satisfy the requirement 'summary information of said scene generated by calculating statistics of motion picture data within each of said spatially split blocks' of the claim. It is suggested by the examiner that the applicant narrow the claim by defining the motion picture data to be used and the specific statistics to be determined.

In regards the arguments related to claim 51, the Applicant states that Yang does not teach the spatially split blocks and Yang further 'does not describe nor teach a storage medium comprising retrieval information for retrieving motion picture data that includes summary information that is statistics of motion picture data in spatially split blocks of said one or more scenes. Nor that the plural split blocks for a scene are obtained by spatially splitting said scenes and so as to have a length in a direction of the time axis.'

As shown above for the response to the arguments related to claim 34, Yang teaches the apparatus for generating retrieval information. Yang clearly teaches the spatially split blocks as shown in Figures 6 through 9. Yang teaches the use of the spatially split blocks in order to perform the conversion to symbolic data (Col 6 Lines 10-35). Yang further teaches the storage of the statistics into memory (Col 7 Lines 12-15 and Lines 22-24). The statistics (signature of the video clip, symbol and coordinates) are retrieved by Yang in order to perform a query on the video clip (Col 7 Line 25-Col 8 Line 34). Yang clearly shows the requirements of claim 51.

In regards to the applicant's arguments related to the rejection of claim 34 in view of Kobla, the applicant argues that Kobla does not teach the requirements of claim 34. Kobla teaches the ideal method of determining a key frame where in all the frames of a scene are compared to determine the frame with the least difference from the other frames in terms of a given similarity measure. It is viewed by the examiner that this process satisfies the requirements of the first summary information generating means. The comparison of the frames with the other frames satisfies the requirements of generating summary information (key frame) of said scene generated by calculating statistics of motion picture data within each of said spatially split blocks of said scene (difference from other frames in terms of a given similarity measure) (Page 297 Second Column Last Paragraph).

In regards to the applicants arguments related to claim 47, the applicant argues that Kobla does not discuss the spatially splitting the scene including all frames of the scene and so that there is one spatially split block for each scene that represents all of

the corresponding split blocks of the frames for the scene. The requirement of 'one spatially split block for each scene that represents all of the corresponding split blocks of the frames for that scene' is not a requirement of the claim. Therefore the applicant's argument is moot.

In regards to the applicants argument regarding the combination of the ideal method for selecting key frames as taught by Kobla with the apparatus of Kobla. The fact that the method is the ideal method to obtain the key frame provides reason to use the method. Further the apparatus of Kobla requires a key frame extraction. Therefore it would have been obvious to use the ideal method for selecting key frames.

In regards to the applicant's arguments related to claim 35, the applicant argues that Yang and Coleman do not teach the requirements of claim 34 and therefore do not teach the requirements of claim 35. As shown above Yang alone teaches the requirements of claim 34.

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, the previous Office Action clearly stated a reason for combining the references wherein Coleman

provides the video clip producing method required by Yang in order to perform the motion picture retrieval information generating on multiple video clips.

Claim Objections

Claim 51 objected to because of the following informalities: "split" is misspelled as "spilt". Appropriate correction is required.

Claim Rejections - 35 USC § 102

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 34, 36, 51 and 54 are rejected under 35 U.S.C. 102(b) as being anticipated by US Patent 5,819,286 to Yang et al.

[claim 34]

As shown in Figures 4 and 5, Yang teaches a motion picture retrieval information generating apparatus that generates retrieval information from retrieving motion picture data constituted of one or more scenes comprising:

A retrieval information generating section that generates retrieval information corresponding to each of said one or more scenes on the basis of said motion picture data, and

Wherein said retrieval information generating section comprises:

As shown in Figures 6 and 11, a first summary information generating means for forming plural spatially split blocks of a scene which are obtained by spatially splitting said scene and which have a length of said scene in a direction of the time axis and for generating summary information of said scene generated by calculating statistics of

motion picture data within each of said spatially split blocks of said scene (Col 5 Line 28-Col 6 Line 35, Col 7 Lines 15-24, and Col 10 Lines 1-15).

[claim 36]

As shown in Figure 6, the first summary information generating means spatially splits each of said scenes into a predetermined number of parts in each of two directions defined spatially (Col 6 Lines 24-26).

[claim 51]

As shown in Figure 4, Yang teaches a storage medium (130) in which retrieval information for retrieving motion picture data constituted of one or more scenes is stored together with correspondence information between said retrieval information and said motion picture data, and wherein said retrieval information comprises summary information for said each of said one or more scenes, the summary information being statistics of motion picture data within spatially split blocks of said one or more scene, the spatially split blocks of a scene are obtained by spatially splitting said scene and have a length of said scene in a direction of time axis (Col 5 Line 28-Col 6 Line 35, Col 7 Lines 15-24, and Col 10 Lines 1-15).

[claim 54]

As shown in Figure 5, Yang teaches the motion picture retrieval information managing apparatus (310-330). Yang teaches the system contains a read out section for reading retrieval information (270-300). The system further obtains a video clip based on the retrieval information (Col 7 Lines 25-48, Col 7 Lines 59-62, Col 9 Lines 44-55, Col 14 Lines 40-44, Col 16 Lines 41-60).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 34, 36, 40, 42, 43, 45, 47, 48, 50-55, 57-60, 62-70 are rejected under 35 U.S.C. 103(a) as being unpatentable over 'Indexing and retrieval of the MPEG compressed video' by Kobla et al.

[34, 36, 58, 60, 62, 63, 64]

As shown in Figure 2, Kobla teaches an apparatus for motion picture retrieval information generating using MPEG compressed video. Kobla further teaches the selection of a key frame for each scene. Kobla teaches the ideal method of selecting key frames would be to compare each frame to every other frame in the scene and select the frame with the least difference from other frames in terms of a given similarity measure (Page 297 Col 2 Last Paragraph). The apparatus of Kobla uses the macroblocks to obtain the spatial and temporal features for the scene (Section 4). As taught by Kobla, MPEG frames in a clip are divided into macroblocks (Section 2.1). It would have been obvious to one of ordinary skill in the art at the time of the invention that using the ideal method for selecting key frames as taught by Kobla would be used in order to obtain a summary frame representative of a scene. Kobla further teaches using the key frame to obtain spatial features for indexing the scene (Section 4.1 and Section 5.1).

In regards to claim 58, Kobla further teaches the motion picture structure information outputting section for analyzing the motion picture data and outputting motion picture structure information expressing positions, in said motion picture data of each of said one or more scenes (Page 297 section 3. Video Segmentation Overview, Fig. 2).

In regards to claim 62, as noted above Kobla teaches the use of macroblock comparison over the entire scene to determine which frame best represents a summary of the scene (Page 297 Col 2 Last Paragraph). Therefore the length of the plural spatially split blocks is equivalent temporally to the temporal length of said each of said one or more scenes.

[claims 40 and 42]

Kobla further teaches the use of temporal information in addition to the spatial information for indexing scenes (Section 5 and 5.2).

[claims 43 and 45]

The feature extraction method of Kobla further teaches the storage of a type-independent representation of the key frame. Which provides an independent frame containing a summary of the spatial and temporal features of a scene (Section 4). It would have been obvious to one of ordinary skill in the art at the time of the invention that the final step of creating a type-independent representation would be a third summary information means.

[claims 47, 48, 50, 65-67]

Kobla teaches the retrieval means for comparing a desired picture with one or more scenes as required by claim 47 (Sections 5 and 5.1, Fig. 2). Kobla further teaches the retrieval means also compares temporal similarity as required by claims 48 and 50 (Section 5.2).

In regards to claim 65, as noted above Kobla teaches the use of macroblock comparison over the entire scene to determine which frame best represents a summary of the scene (Page 297 Col 2 Last Paragraph). Therefore the length of the plural spatially split blocks is equivalent temporally to the temporal length of said each of said one or more scenes.

[claims 51, 52, and 53]

As shown in Figure 2, Kobla teaches the storage means (database) for holding the spatial and temporal summary information along with a corresponding scene (Abstract and Section 2.3).

[claims 54, 55, 57, 68-70]

As shown in Figure 2, Kobla teaches the steps of reading out retrieval information (query). The query is then processed and compared with the summary data in the database in order to provide a video clip that satisfies the query (Section 5). It would have been obvious to one of ordinary skill in the art at the time of the invention to perform the task as taught by Kobla in units as this is well known in the art (Official Notice).

In regards to claim 68, as noted above Kobla teaches the use of macroblock comparison over the entire scene to determine which frame best represents a summary

of the scene (Page 297 Col 2 Last Paragraph). Therefore the length of the plural spatially split blocks is equivalent temporally to the temporal length of said each of said one or more scenes.

[claim 59]

As shown above, Kobla teaches the apparatus of claim 58. As shown in Figure 3, Kobla further teaches the scenes are obtained by dividing consecutive motion picture data on a time axis. Kobla further teaches the retrieval information (key frame) is obtained for each scene in order for a system to index video to provide a user the ability perform a query on the video (Pages 296-297 Section 2.3 Approach).

Claim 35 rejected under 35 U.S.C. 103(a) as being unpatentable over Yang in view of US Patent 5,778,108 to Coleman.

[claim 35]

Yang teaches the apparatus of claim 34. Yang further teaches the use of video clips (abstract). Yang does not specifically teach how to obtain the clips. Coleman teaches a scene detection system which divides a video into scenes for indexing (Col 2 Lines 14-59, Figs. 1 and 2). It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the apparatus of Yang with the scene detection system of Coleman in order to divide a video into scenes for indexing.

Allowable Subject Matter

Claims 41, 44, 46, 49, 56, and 61 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 37-39 are allowed.

The following is a statement of reasons for the indication of allowable subject matter: As shown above both Yang and Kobla teach the requirements of claim. Yang teaches the division of the frames into 5X4 blocks as shown in Figure 6. Kobla teaches the use of macroblocks in a 320X240 frame (Page 302 Second Column Third Paragraph down). Yang nor Kobla teach splitting into 2 to the nth power parts as required by the claim. Therefore this feature taken with the others in the claim define over the prior art.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Erick Rekstad whose telephone number is 571-272-7338. The examiner can normally be reached on 8-5.

Art Unit: 2613

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mehrdad Dastouri can be reached on 571-272-7418. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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